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ABSTRACT

Chronic pain is a syndrome which forces many changes upon the patient and upon the family system. To examine the relationship between patients' and their spouses' psychosocial functioning, questionnaire data were collected from 28 male and 18 female patients referred for evaluation to an outpatient pain management program. The Minnesota Multiphasic Personality Inventory (MMPI) was administered to assess psychological functioning; the Sickness Impact Profile was employed to measure patients' perceived changes in physical, social, vocational, and avocational activities as a result of the pain; and the Primary Communication Inventory (Navran, 1967) was used to assess patients' and spouses' perception of marital communication effectiveness. Results indicated that level of depression may be related to the level of marital communication difficulties reported by the spouse, except for husbands of chronic pain patients who reported better communication with their more depressed wives. Elevation on the depression scale appeared to be associated with greater reports of detrimental psychosocial changes on the Sickness Impact Profile. Psychological impairment was associated with poor communication reported by male patients and their wives; however, husbands of patients reported greater satisfaction with marital communications as their mates reported greater levels of psychosocial impairment. Although there is considerable variation in spouse and chronic pain patients' psychosocial functioning, there are indications that spouses' characteristics and responses to their mates' pain problem have an effect on pain behavior. (LLL)

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A REVIEW AND INVESTIGATION OF FAMILY FACTORS IN THE TREATMENT OF CHRONIC PAIN PATIENTS

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ABSTRACT

A complaint directed at chronic pain management programs is the frequent lack of transfer of treatment effects to family and work environments. Behavior of the spouse can have a substantial impact on the chronic pain patient, and growing attention has been paid to this factor. This paper reviews prior investigations of spouse and family variables and the treatment of chronic pain. Relationships between the spouses responses, and attitudes and adaptations to the patients pain problem are reviewed. It has been noted that spouses may experience distress with physical or psychological changes that result from the pain problem, and best efforts on the part of the families to help with the situation may in fact worsen the problem. The relevance of these variables to the outcome of rehabilitation programs is discussed.

Preliminary assessment data for chronic pain population spouses also are presented. The couples level of communication and the individuals adjustment problems are contrasted to general population norms. Relationships among the spouses and patients perception of physical dysfunction and distress are discussed. Data suggest significant differences between relationship variables for male and female pain patients. According to self report measures, male patients complain of greater physical dysfunction, greater psychological distress, and their spouses may report that the couple evidence greater communication difficulties.

A Review and Investigation of Family Factors in the Treatment of Chronic Pain Patients

Research of the past 20 years supports a significant relationship between major life events and psychological distress. Chronic pain is a syndrome which forces many changes, not only upon the "patient", but upon the family system as well. Shifts in financial status, role functioning in the family, and psychological distress of the patient result in stress within the family system (Block, 1980). In fact, it has been found that spouses of chronic pain patients report elevated distress levels, especially when the patient reports high distress (Shanfield, Heiman, Cape, and Jones, 1979). Spouses often develop pain problems themselves (Mohammed, Weisz, and Wearing, 1978). Most pain patients acknowledge the need to modify the patient's social environment so that unwanted pain behavior does not receive social reinforcement (Fordyce, 1976). The family is a critical unit for intervention and marital issues are addressed in most comprehensive treatment programs to enhance carry over of treatment effects. Further investigation of specific ways to help clinicians make these determinations is valuable in contribution to the field.

Family attitudes and responses to pain behavior may play a significant role in the maintenance and treatment of chronic pain problems. For example, the spouse may reward and then maintain pain behavior, medication intake and high levels of functional disabilities by selectively attending to his or her mate only when complaints of pain are heard. This conforms to a "sick role" behavior pattern (Fordyce, 1976). Couples often may communicate only around

pain topics, and intimate contacts between the spouse and pain patient may occur only by administration of pain relieving methods, e.g., massage, ice, heat, etc. Alternatively, it has been shown that pain patients modify their activity level (e.g., distance on a stationary exercycle) when staff members attend to positive increases in behavior (Cairns and Pasino, 1977).

Another interesting finding is that patients' reports of pain to the spouse vary with the amount of reinforcement they perceive is provided by their mates (Block, Kremer, Galor, 1980). Chronic pain patients who stated that their spouses did little to reward pain behavior reported greater pain levels to a neutral observer than to the spouse. However, the opposite pattern was demonstrated with patients whose spouses provided copious amounts of reinforcement for pain complaints. A recent study by Block et al. (1984) indicated that the patient and spouse's relative perception of disability was predictive of their report of marital satisfaction. Patients who reported less disability than their wives on questionnaires, also had lower marital discord scores. Marital satisfaction however was not predictive of the difference between spouse and patient perception of disability. Hence, it appears that a discrepancy in pain and disability report between patient and spouse is more directly related to the patient's general style of coping than to marital satisfaction variables per se.

Spouses who view their mates' pain behavior, also have been shown to display significant elevation in skin conductance over viewing neutral facial expressions (Block, 1981). Spouses of chronic pain patients viewed videotapes of "painful" and neutral facial expressions emitted by their mates. The study was designed to examine the physiological and cognitive verbal responses of the viewing responses. The spouses were divided into satisfied and unsatisfied

on the basis of their Locke Wallace Marital Adjustment score. Spouses who reported high levels of marital satisfaction displayed greater increases in skin conductance than less satisfied spouses, however, there was no difference between their ratings of observed pain. This may suggest that spouses' empathic responses are positively related to marital satisfaction. It also implies that psychophysiological difficulties may arise through observing a mate over time in pain and distress. This study did not address the spouses' overt responses to their mates' pain displays.

Although there are admitted problems with studying the marital relationship following the chronic pain diagnosis, there are indications that marital difficulties are common between chronic pain patients and their spouses. There has been little study of the psychosocial functioning of the spouse, although such problems have been studied in the chronic pain patient (Chapman, Sola, and Bonica, 1979). One major problem rests with the need to assess premorbid individual functioning of the pain patient and marital adjustment of the couple. It is, therefore, unclear if elevated scores are primary or secondary to the chronic pain problem. This complication is frequently encountered when investigating phenomenon after the fact (Roy, 1972). Characteristics of the spouse of the chronic pain patient and the marital relationship may hold predictive value in helping choose candidates for successful pain management protocols.

Mohammed (1978) reported that pain patients experienced more marital and sexual difficulties than a group of depressed patients. Another significant finding was that the spouses of the depressed pain group had significantly greater prevalence of pain problems than the depressed group. Unfortunately, the [illegible] were self report and interview gathered. Standardized, reliable

assessment instruments were not employed. Another related investigation also suggest that spouses of unsuccessfully treated chronic pain patients have higher scores on the 1 and 3 scales of the Minnesota Multiphasic Personality Inventory when compared to spouses of successfully treated patients (Roberts and Reinhardt, 1980). Hence, several studies do support a relationship between chronic pain and the psychosocial functioning of the spouse.

In treating chronic pain, it is essential to consider the reinforcement system which is in effect in the home environment (Fordyce, 1980). Sternbach (1974) noted that "patients who are married and have family support tend to do better than those who have never married or who are formally married but who are living alone. Patients whose sexual adjustment was good prior to the onset of pain, tend to fair better than those whose sexual adjustment was poor or marginal." Unfortunately, Sternbach's statements were based on clinical observation. Patients' present self report of past psychological or marital adjustment also was employed, and the validity of this retrospective data can be questioned (Bruce, 1975).

While Sternbach used family support as a positive attribute, Swanson and Maruta (1980) found that high congruency between patient and relative attitudes was associated with poor outcome in treatment. They studied 100 chronic pain patients and their families, and measured the level of agreement between patients and their families in the following areas: duration, location, severity and characteristics of the pain, influence of the pain in other functions such as sleep, sexual life and work. A greater level of agreement between relatives and the patients tended to suggest poorer functioning on the part of the patient one year post treatment. They concluded that mutuality

of these attitudes was essentially undesirable. While mutuality is unlikely to contribute to the etiology of the pain, similarity and beliefs may serve to reinforce, support and perpetuate dysfunctional perceptions and pain behavior.

The present investigation reviewed the relationship between patient's and spouse's psychosocial functioning. Additionally, there was an attempt to explore the relationship between marital adjustment and a chronic pain patient's perception of their level of physical and psychosocial functioning. The Minnesota Multiphasic Personality Inventory was used to assess psychological functioning on the part of the chronic pain patient and the spouse. The Sickness Impact Profile was employed to measure the changes that the patient perceives in physical, social, vocational and avocational activities as a result of the pain. The Primary Communication Inventory (Navran, 1967) was used to assess the patient's and spouse's perception of marital communication effectiveness.

The first question addressed the relationship between the patient's perception of disability and the level of self-reported marital distress. One can assume that if a person feels more isolated by a physical-pain problem, marital communication also may show impairment. Overall, the communication between the patient and spouse was expected to be more problematic when compared to a normative sample. In addition, the patients' MMPI profiles were expected to confirm the "pain profile" or elevation on the 1, 2, and 3 subscales. Another question addressed the relationship of psychological distress of the spouse to the couples assessment of marital distress.

Questionnaire data were collected from 28 male and 18 female patients referred for evaluation to an outpatient pain management program. The

spouses' MMPI mean profiles were within normal range (see Figures 3 & 4), while the composite MMPI profiles for chronic pain patients showed elevation commensurate with the pain "triad" of the 1, 2, and 3 subscales (see Figures 1 & 2). Pearson Product Moment correlations were used, and no significant relationship was noted between the patient and spouse elevation on the "triad" or other scales.

Self report data from the Primary Communication Inventory suggested that the chronic pain patient's and their spouse's scores fell between norms for "happily married couples" and "distressed couples" who present with a primary complaint of marital distress (See Table 1). Correlations with the spouse and patient scores from the Primary Communication Inventory were $r = .77$, $p < .001$ (See Table 1 for comparisons with other investigations).

There were some noteworthy relationships between the MMPI 2 scale and the Primary Communication Inventory scores (see Table 2). It appears that the level of depression may be related to the level of marital communication difficulties as reported by the spouse. The exception is in the case of the chronic pain patients' husbands. These husbands reported better communications with their more depressed wives ($r = .43$, $p < .02$). Perhaps women who are more verbal and distressed than their more depressed counterparts are more of a strain to their husbands.

Elevation on the depression scale also appears to be associated with greater reports of detrimental psychosocial changes on the Sickness Impact Profile, a scale that is heavily weighted with "socialization" items. One might assume that someone who is less involved in social interactions would have less opportunities for rewards and positive feelings, and therefore, feel more depressed. Psychosocial impairment was associated with poor

communication reported by male patients and their wives (see Table 2). On the other hand, patients' husbands reported greater satisfaction with the marital communications as their mate reported greater levels of psychosocial impairment. This is an unusual finding which supports the notion that depression and increased withdrawal by female pain patients is associated with less complaints from their spouses about communication, while it does not appear to effect the woman's own perception of communication problems (see Table 2).

Physical changes on the Sickness Impact Profile were associated with elevations on the 1 and 3 subscales of the MMPI. These scales are presumed to measure somatic concerns, and it is not surprising that the correlations exist in this pattern.

DISCUSSION: Although there is considerable variation in spouse and chronic pain patients' psychosocial functioning, there are indications that spouses' characteristics and responses to their mates pain problem have an effect on the pain behavior. However, there have been few controlled and well designed research investigations in this area. The work of Block and his associates is an exception. Their use of comparison groups and reliable valid dependent variables make these studies particularly relevent. They support the notion that spouse's responses effect their mate's pain reports, displays of pain behavior (Block, Kremer, and Galor, 1980), but spouses also show increases in skin conductance when observing their mates in pain. Clinicians have observed that spouses of chronic pain patients have psychological and psychosomatic difficulties. The above findings give a psychophysiological underpinning to the increased psychological stress and stress related symptoms.

On the whole, the literature is suggestive of a certain hypothesis, but it is not adequate in its methodology to make definitive conclusions. There are significant methodological flaws in the design of many studies which limit the generalizability of the findings:

(1) Much of the data is retrospective and it is unclear if the mood or psychological problems predate the pain problem.

(2) Correlational designs are more commonly used, and the present investigation offers no exception to this. We must work toward looking at causal factors with experimental designs.

(3) Many studies rely on clinical observation versus the use of standardized assessment instruments, and reliability and validity of the instruments remain problematic.

It appears that spouses of chronic pain patients report at least as many communication problems as the chronic pain patients, but they do not show clear psychological problems evidenced by MMPI data. Spouse profiles are unremarkable when compared to a psychiatric population sample or a sample of chronic pain patients. However, it is possible that those spouses who do show elevations on the 1 and 3 scales, have an impact on the successful treatment of their mates' pain (Roberts and Reinhardt, 1980). In fact, there are indications that <u>similar</u> attitudes on the part of families regarding pain, its duration and effect on work, financial compensation and external attributions are associated with <u>poor</u> treatment outcome (Swanson and Maruta, 1980).

There is some support for higher prevalence of pain problems in spouses of chronic pain patients. However, most investigations which use experimental versus clinical observation do not clearly confirm the "competition for sick roles" in the household. There appears to be a greater prevalance of pain problems in the families and spouses of chronic pain patients over a matched group of depressed patients (Mohammed, et al., 1978), but little further work has been done in that area.

Research which uses predictive designs are imperative for furthering our understanding of how spouse characteristics relate to their mates' response to pain and success in pain management programs. It appears that there are differences between male and female patients in the impact of the pain and depression on the marital dyad. Further group comparisons and use of experimental designs could help clinicians address more effective ways to treat and maintain changes in their pain patients.

Table 1

Comparison of Scores on the Primary Communication Inventory

Pain Management Program

(N = 48)

	Mean	S.D.
Female Patients	92.3	10.78
Patient's Husbands	93.8	12.51
Male Patients	90.5	10.14
Patient's Wives	92.0	10.28

Navran (1967) Study

(N = 24)

"Happily Married" Husbands	112.2	4.24
"Happily Married" Wives	113.8	
"Distressed" Husbands	76.0	12.36
"Distressed" Wives	74.0	

Correlation Between Pain Patients and Spouses

Primary Communication Inventory Scales

Female Patients r = .82

Overall r = .77 $p < .001$

Male Patients r = .73

Table 2

Relationships Among Communication and Dysfunctional Pattern Variables for Male (M) and Female (F) Patients

	Patient's MMPI Scale Scores:			SIP Dysfunction:
	Hs(1)	D(2)	Hy(3)	Psychosocial
Primary Communication Inventory:				
Patient	(M) -.42*	(M) -.50**	(M) -.53***	(M) -.57***
	(F) -.07	(F) .28	(F) .23	(F) .24
Spouse	(M) -.39*	(M) -.58***	(M) -.44**	(M) -.67***
	(F) -.12	(F) .42*	(F) .11	(F) .45*
Sickness Impact Profile Dysfunction Scales:				
Physical:	(M) .48**	(M) .15	(M) .46**	(M) .39*
	(F) .19	(F) .26	(F) .49*	(F) .28
Psychosocial	(M) .37*	(M) .44**	(M) .34	(M) 1.00
	(F) .52**	(F) .58**	(F) .19	(F) 1.00

*p < .05 **p < .01 ***p < .001

FIGURE 1: MEAN MMPI PROFILE FOR MALE PAIN PATIENTS (n = 28)

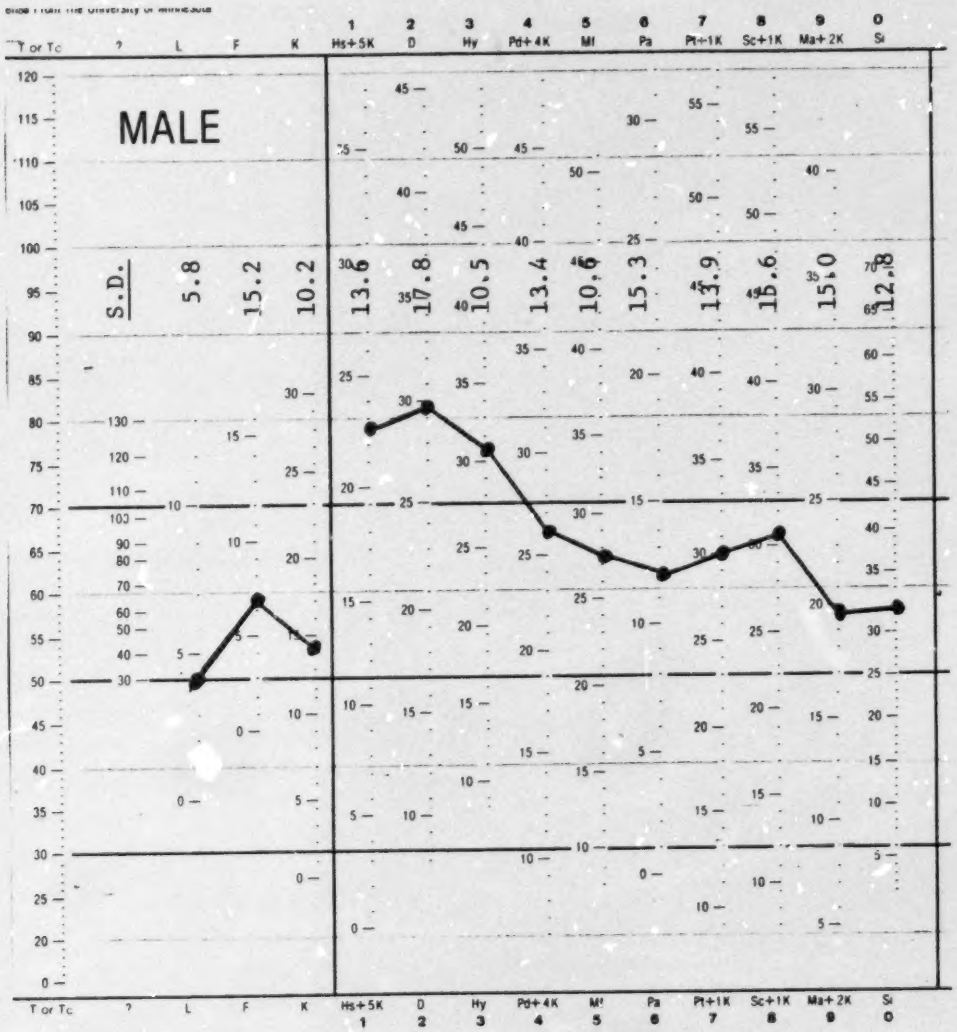

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FIGURE 2: MEAN MMPI PROFILE FOR FEMALE PAIN PATIENTS (n = 18)

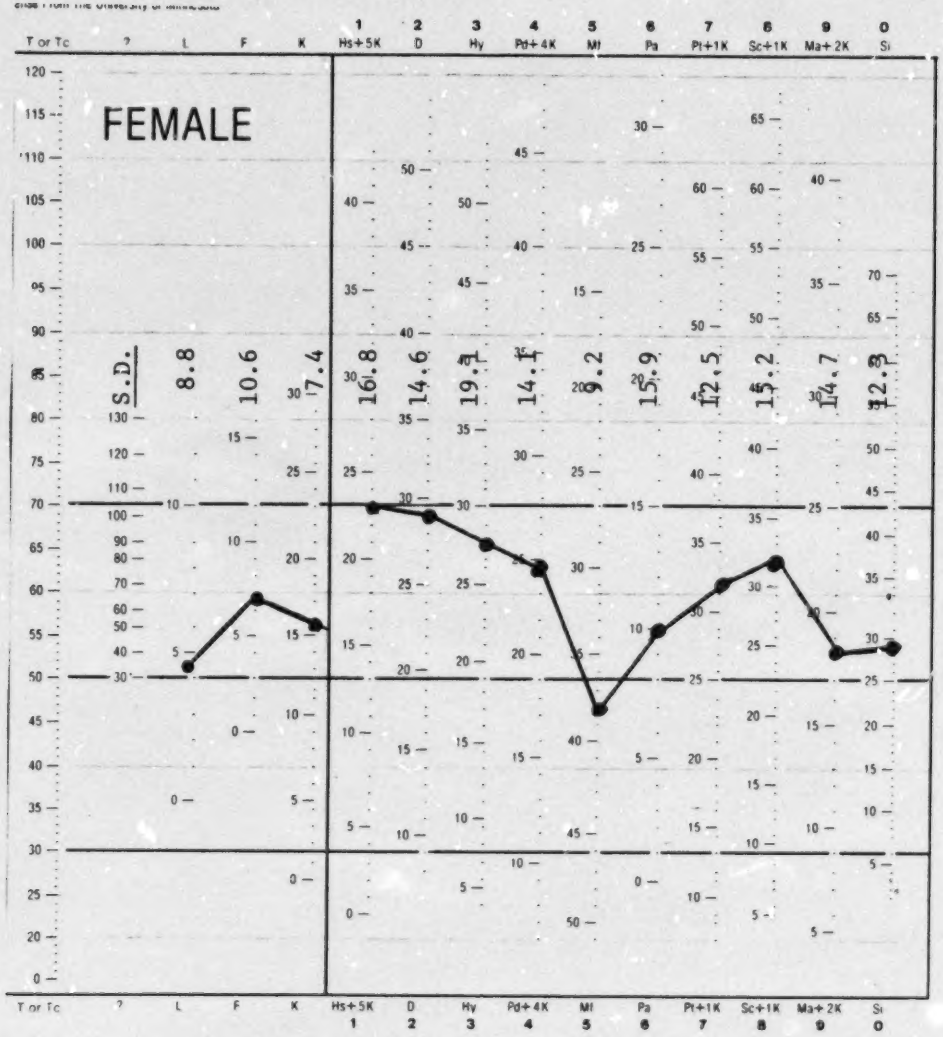

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FIGURE 3: MEAN MMPI PROFILES FOR WIVES OF PAIN PATIENTS (n = 28)

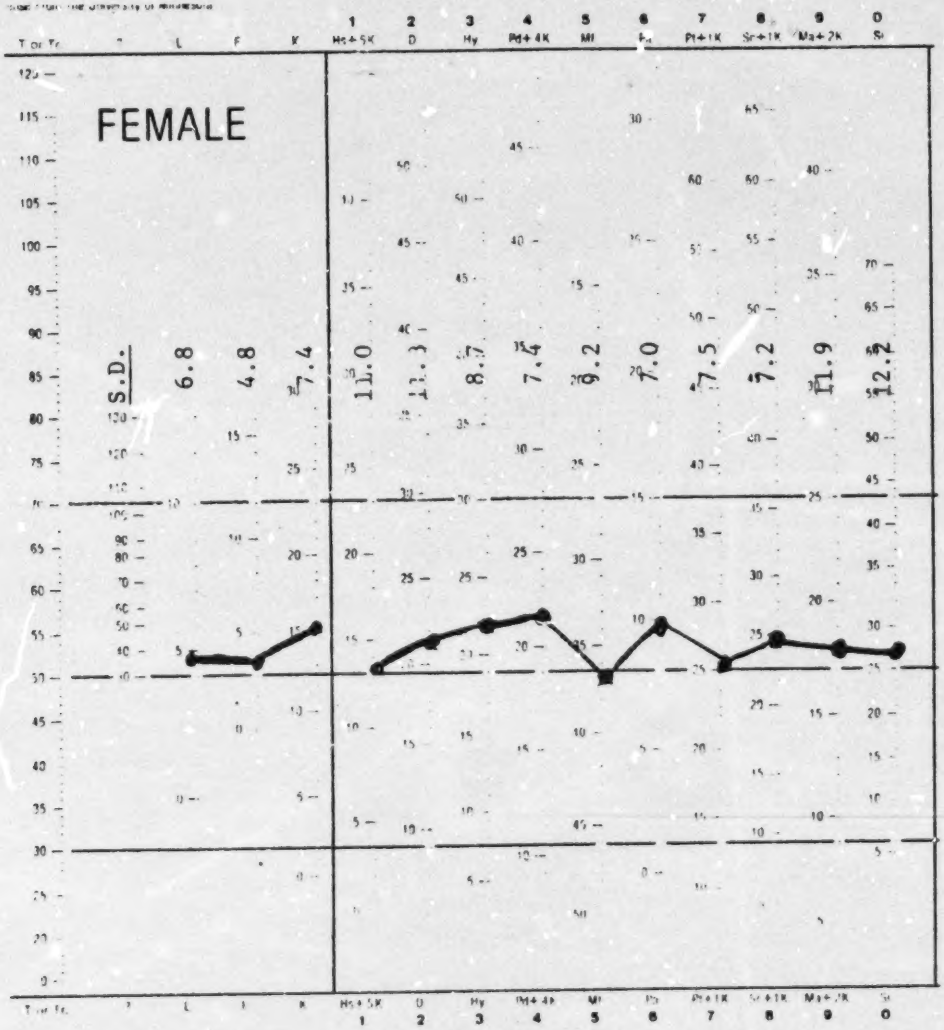

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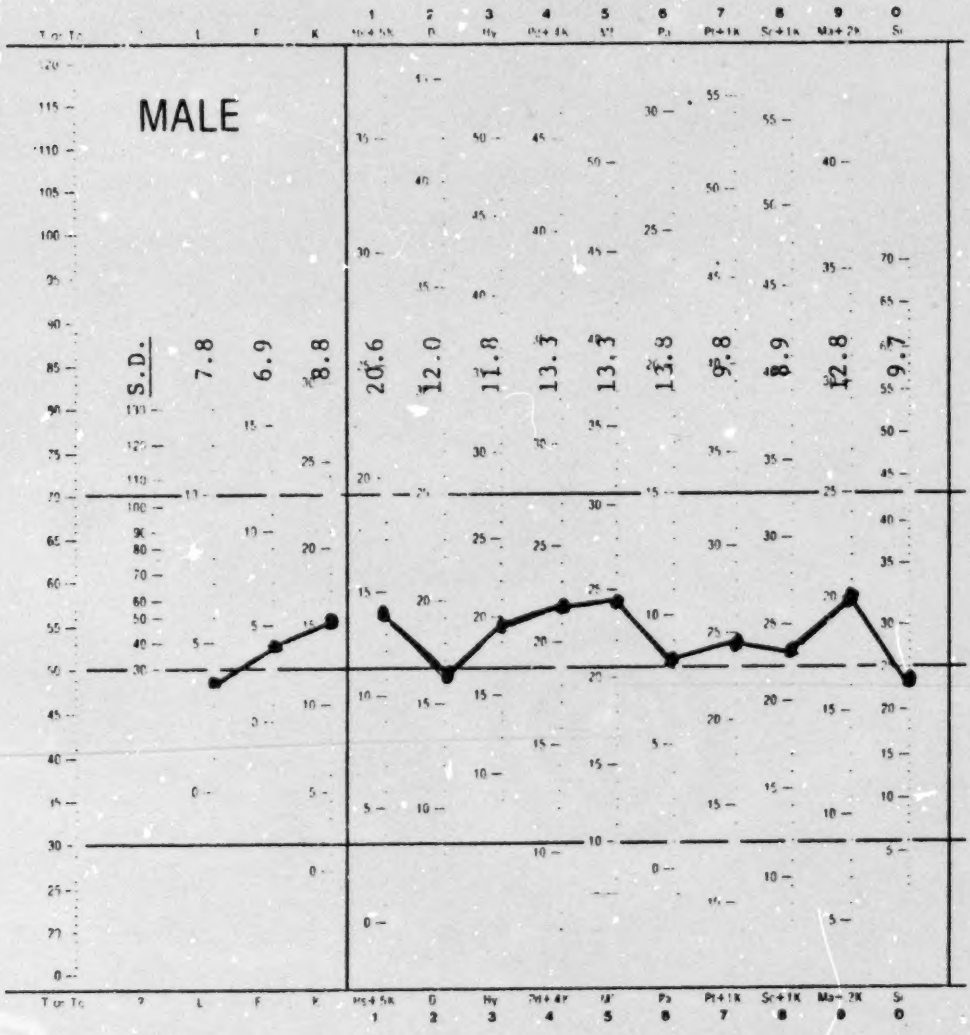
FIGURE 4: MEAN MMPI PROFILES FOR HUSBANDS OF PAIN PATIENTS (n = 18)



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